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Flying Operations

TG-11 OPERATIONS PROCEDURES



COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFD 11-2, *Aircraft Rules and Procedures*, and AFI 11-202, Volume 3, *General Flight Rules*. Along with its complementary **Chapter 5** (Local Operating Procedures), this instruction prescribes standard operational procedures to be used by all pilots operating Air Force TG-11 aircraft. This instruction is not applicable to the Air National Guard or Air Force Reserve Command. File a copy of all approved waivers with this instruction. **Attachment 1** contains a glossary of references, abbreviations and acronyms.

See **paragraph 1.8** of this volume for guidance on submitting comments and suggesting improvements to this publication.

The Paperwork Reduction Act of 1974 as amended in 1996 and AFI 37-160, Volume 8, *The Air Force Publications and Forms Management - Developing and Processing Forms*, affect this publication. Maintain and dispose of records created as a result of processes prescribed in this instruction in accordance with AFMAN 37-139, *Records Disposition Schedule*.

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Chapter 1

GENERAL INFORMATION AND REQUIREMENTS

1.1. Scope. This instruction outlines the procedures applicable to the safe operation of the TG-11. With the complementary references cited, this instruction prescribes standard operational procedures to be used by all pilots operating TG-11 aircraft. Aircraft commanders will ensure all occupants of the aircraft comply with this directive.

1.2. Pilot's Responsibility. This instruction, in conjunction with other governing directives, prescribes TG-11 procedures under most circumstances, but is not to be used as a substitute for sound judgment or common sense. The pilot in command (PIC) is ultimately responsible for the safe and effective operation of the aircraft.

1.3. Crew Requirements. The normal crew for the aircraft is an IP in the right seat and a student pilot in the left seat. However, the PIC may fly from either seat.

1.4. Flight Time, Flight Duty Period and Medical Restrictions:

1.4.1. Flight duty period will not exceed 12 hours regardless of aircrew composition.

1.4.2. Aircrew members will not be scheduled to fly or perform aircrew duties when taking oral or injected medication, unless an individual medical waiver has been granted by the Command Surgeon. Aircrew members may not self-medicate except according to AFI 48-123, *Medical Examination and Standards*. The following is a partial list of medications permitted without medical consultation:

1.4.2.1. Skin antiseptics, topical antifungals, 1 percent hydrocortisone cream, or benzoyl peroxide for minor wounds and skin diseases that do not interfere with the performance of flying duties or wear of personal equipment.

1.4.2.2. Single doses of over-the-counter aspirin, acetaminophen or ibuprofen to provide pain relief for minor self-limiting conditions.

1.4.2.3. Antacids for mild, isolated episodes of indigestion.

1.4.2.4. Hemorrhoidal suppositories.

1.4.2.5. Bismuth subsalicylate for mild cases of diarrhea.

1.4.2.6. Oxymetazoline or phenylephrine nasal sprays when used by aircrew members as "get me downs" in the event of unexpected ear or sinus block during flight. These shall not be used to treat symptoms of head congestion existing prior to flight. (Use renders aircrew members DNIF until cleared for further flight by a flight surgeon.)

1.5. Clothing Requirements. All aircrew members will wear flight suits and flight gloves or locally approved flight uniforms. Aircrew members will remove rings and scarves before performing aircrew duties.

1.6. Deviations. Do not deviate from the procedures and guidance in this publication except when necessary to preserve safety or protect lives.

1.6.1. The PIC has ultimate authority and responsibility for the course of action to be taken.

1.6.2. Report all deviations or exceptions without waiver through channels to the major command (MAJCOM) office of primary responsibility (OPR).

1.7. References. The primary references for TG-11 operations are the *TG-11A Flight Manual* (Technical Order (T.O.) 1G-11(T)A-1) and this instruction. Training units may develop maneuver manuals and instructional technique guides from the procedures contained in these documents. Maneuver manuals and instructional technique guides may be used to augment initial qualification training and may expand these basic procedures, but in no case will they be less restrictive.

1.8. Recommended Changes and Waivers.

1.8.1. Submit suggested improvements to this instruction on AF Form 847, **Recommendation for Change of Publication**, through standardization/evaluation (stan/eval) channels. Squadron Stan/Eval will forward approved recommendations to 34 OG/OGV in accordance with AFPD 11-2, *Aircraft Rules and Procedures* paragraph 2.4.1. AF/XO is approval authority for changes/revisions to this instruction.

1.8.2. Unless otherwise directed, MAJCOM/DRU DOs have waiver authority for this publication according to AFPD 11-2. Submit waiver requests in message or memorandum format through Stan/Eval channels. Waiver authority for flights with inoperative equipment is delegated to unit DOs.

Chapter 2

MISSION PLANNING

2.1. Map and Charts. Local sectional and Visual Flight Rules (VFR) terminal area (Class B Airspace) charts must be on board the aircraft. When flying outside the local area, charts covering the route of flight must be on board the aircraft. These charts must be appropriate for the type of mission flown.

2.2. Required Documents. The following documents must be on board for flight:

- 2.2.1. Aircraft weight and balance.
- 2.2.2. Airworthiness certificate.
- 2.2.3. Aircraft registration.
- 2.2.4. AFTO Form 781, **Aerospace Vehicle Flight Report and Maintenance Document.**

2.3. Briefing and Debriefing. The pilot-in-command (PIC) is responsible for presenting a logical briefing that will promote safe, effective mission accomplishment. In addition, the following guidance applies:

- 2.3.1. MAJCOMS will provide briefing guides for use by the PIC. Guides will contain a reference list of items that may apply to particular missions. Items listed may be briefed in any sequence. Specific items not pertinent to the mission need not be covered.
- 2.3.2. All missions will be debriefed.
- 2.3.3. On subsequent flights, the PIC may brief only those items that have changed from the previous flights.
- 2.3.4. Required topics for flight briefings are contained in local [Chapter 5](#).

2.4. Flight Crew Information File (FCIF). The FCIF is used to ensure that aircrews receive time-critical information prior to signing out aircraft. Aircrews will ensure they have read the latest FCIF and signed it off prior to signing out aircraft.

Chapter 3

NORMAL OPERATING PROCEDURES

3.1. Preflight:

- 3.1.1. A qualified TG-11 pilot or maintenance personnel must supervise TG-11 ground handling. Use extreme caution when ground handling aircraft. Improper procedures may result in structural damage.
- 3.1.2. Check the fuel after every refueling and before the first flight of the day. Fuel should be allowed to settle for 30 minutes to an hour to obtain the most valid sampling. If the sample is good, pour back into tank or follow local procedures for sump fuel. If the sample is bad, immediately contact local refueling/maintenance personnel.
- 3.1.3. Only maintenance personnel may perform jumpstarts. If the aircraft requires a jump start for the first sortie of the day, record it in the AFTO Form 781. If the aircraft will not start without a jump start on any subsequent flight, abort the aircraft and enter this in the AFTO Form 781.
- 3.1.4. Ensure a fire bottle is in the vicinity prior to engine start.
- 3.1.5. Ensure all aircraft surfaces are clear of frost, ice, and snow prior to flight.
- 3.1.6. When starting behind another aircraft, ensure a minimum of 10 ft nose-to-tail separation.
- 3.1.7. If the engine has been shut down for a quick turn, perform an aircrew thru-flight inspection, as a minimum, prior to start.

3.2. After Engine Start:

- 3.2.1. If the engine fails after warm-up for no apparent reason, abort the aircraft. Enter all engine failures on the AFTO Form 781, to include the total time the engine ran. Debrief the failure to the Flying Safety Officer, maintenance and Quality Assurance Evaluator (QAE).
- 3.2.2. Do not on-load or off-load personnel or equipment while the engine is running.

3.3. Ground and Taxi Operations:

- 3.3.1. Students not upgrading in the TG-11 and individuals receiving orientation rides will not start the engine or taxi the aircraft.
- 3.3.2. Personnel not actively involved in refueling will remain at least 50 ft away from an aircraft refueling operation. In addition, do not operate the engine, taxi, or radiate electromagnetic energy (radio or transponder operation) within the 50 ft safety zone.
- 3.3.3. Pilots will ground handle the TG-11 whenever minimum wingtip clearances will be compromised during taxi. 25 ft is the minimum wingtip clearance. Exceptions. A 10 ft minimum applies if:
 - 3.3.3.1. A wingwalker monitors taxi clearance, or
 - 3.3.3.2. A locally based aircraft uses a taxi line to avoid either permanent structures, the same model aircraft in designated parking spots or support equipment in designated areas.
- 3.3.4. Do not attempt to taxi over significant accumulations of ice or snow. Use caution for proper wingtip clearance after snow removal.

3.3.5. Maintain at least two ship-lengths behind motorgliders and single-engine light aircraft. Maintain at least five ship lengths (of the preceding aircraft) behind multi-engine or jet aircraft. Maintain a minimum of 500 ft behind taxiing helicopters. Use proper tailwind/headwind/crosswind control inputs while taxiing.

3.3.6. Wing Walking Procedures: Cease all taxi operations when the wind exceeds 35 knots. If the wind exceeds Flight Manual limits (25 knots) for unassisted taxi, stop and turn the aircraft into the wind. Resume taxiing when the wind subsides or when wing walkers are in place. Ensure wing walkers are properly briefed on wing walking procedures. Taxi directly into the wind if practical. One wing walker is required for power on taxi. The first available person holds downward pressure on the upwind wing. If a second person is available, they hold downward pressure on the downwind wing. Taxi at a slow walk and use proper flight control inputs for the wind direction. If the aircraft becomes uncontrollable during taxi, shut down the engine immediately.

3.4. Engine Run-Up. Accomplish engine run-ups before every flight. Do not perform an engine run-up while an aircraft is stopped or taxiing in front of your aircraft. Do not taxi in front of another aircraft performing an engine run-up.

3.5. Takeoff:

3.5.1. Except in an emergency, TG-11s will operate only on prepared surface runways long enough to permit acceleration to takeoff speed followed by deceleration to a stop, or 2000 ft, whichever is greater. Since no TG-11 abort performance data currently exists, the information for complying with this restriction will be drawn from the flight manual tables showing takeoff and landing performance. Therefore, when the combined takeoff and landing distance computed for a given set of conditions exceeds the available runway length, either a longer runway will be used or takeoffs will not be attempted.

3.5.2. Minimum runway condition reading (RCR) for takeoff is 12.

3.5.3. Available runway length for intersection takeoffs must permit acceleration to takeoff speed followed by deceleration to stop, or 2000 ft, whichever is greater.

3.6. Minimum Altitudes. Minimum en route altitude is 1000 ft AGL. Simulated Forced Landing (SFL) and 270° cross-country patterns are limited to 200 ft AGL except to prepared surface runways.

3.7. Weather Minimums. VFR flight in weather near minimums presents increased risks even for experienced pilots. Pilots will use judgement to land or reverse course rather than fly in marginal conditions. Although alternates are not strictly required under VFR, when forecast winds reach or exceed limits, pilots will carefully consider routes and fuel requirements for possible diversions.

3.7.1. The minimum ceiling for VFR flight is 1500 ft.

3.7.2. The minimum visibility for VFR flight is 3 miles.

3.7.3. The minimum wind chill temperature is -20° F.

3.7.4. Flight in forecast severe turbulence requires squadron operations officer approval. If severe turbulence is reported, cease operations in the affected area.

3.8. Clearing. Pilots must understand that many VFR pilots use the uncontrolled training areas and surrounding airspace. Therefore, the concept of *see and avoid* is critical and cannot be over emphasized.

3.9. Transfer of Aircraft Control. Both pilots must know at all times who has control of the aircraft. In all cases, the pilot assuming control of the aircraft will state “I have the aircraft” and will shake the stick. The pilot relinquishing control will state: “You have the aircraft.” Once assuming control of the aircraft, maintain control until relinquishing it as stated above.

3.10. Fuel Requirements. Minimum and Emergency Fuel. When it becomes apparent an aircraft will land at the base of intended landing (or alternate if required) with low fuel, declare the following:

3.10.1. Minimum fuel—2.0 gallons or less.

3.10.2. Emergency fuel—1.5 gallons or less.

3.11. Landing Restrictions:

3.11.1. Minimum RCR for landing is 12.

3.11.2. Do not land over any raised web barrier (for example, MA-1A, BAK-15). Avoid landing on or rollout over any cables or barriers.

3.12. Functional Check Flights (FCF). FCFs are performed after accomplishing inspections or maintenance to assure the aircraft is airworthy and capable of mission accomplishment.

3.12.1. Conditions requiring an FCF include (but are not limited to) major retrofit modifications; removal or replacement of moveable flight control surfaces (except repaint); major repairs that would affect the flying characteristics of the aircraft; or the adjustment, removal, or replacement of major components of the flight control system.

3.12.2. The unit commander is responsible for the FCF program. The unit commander may waive a complete FCF and authorize an FCF to check only systems disturbed by maintenance, inspection, or modification.

3.12.3. The best-qualified instructor or stan/eval aircrews will accomplish FCFs. They will be designated FCF qualified to their assigned aircrew position by the unit commander in a memorandum.

3.13. Post Flight:

3.13.1. Chock the aircraft in an appropriate parking spot. Pilots will tie down or hangar the aircraft if it will be left unattended.

3.13.2. Complete the AFTO Form 781 and notify maintenance of discrepancies.

3.13.3. Crews remaining off-station overnight will carry chocks, tie-downs, and extra engine oil.

3.13.4. Inform maintenance, QAE, and Squadron Flying Safety of any ground or air aborts.

3.14. Flights With Inoperative Equipment. All installed systems and equipment must be functional unless operations are authorized by [Table 3.1.](#) below or waived by the squadron DO. Cross-country flights are those which occur outside unit-defined local training areas. Even though operations with inop-

erative systems may be authorized by [Table 3.1.](#), if the PIC considers an item essential for safe flight it must be repaired.

Table 3.1. Operational Equipment and Systems.

Item	Equipment	Remarks
Engine:		
1	Cooling Air Doors	Function required only for OPEN position.
2	Cylinder Head Temperature Gauge	Must be operable for right side of engine.
3	Propeller Pitch Control	CRUISE position may be inoperative if CLIMB position is functional.
Fuel System:		
1	Fuel Totalizer/Hobbs Meter	One may be inoperative (but not both.)
Landing Gear and Brakes:		
1	Parking Brake Control	May be inoperative on one control stick.
Avionics:		
1	GPS-NAV	Required only for Competition Sorties.
2	L-NAV	Required only for Cross-Country Sorties.
3	Headset	May be missing or inoperative for unoccupied seats.
4	Push-To-Talk Switch	Required only for Pilot-In-Command.
5	Transponder	Required to depart home station. VFR flight permitted to reposition for repairs (comply with FAR 91.215.)
6	VHF Radio	Both Transmit and Receive.
Instrumentation:		
1	Variometer	L-NAV or mechanical variometer may be inoperative (but not both.)
Airframe:		
1	Canopy Defog	Must function in OPEN position.
2	Canopy Vents	Panel air vents/knobs may be inoperative. Canopy sliding windows must function.
3	Seat Belts/Shoulder Harness	May be inoperative for empty seats.
Electrical System:		
1	Additional Battery	May be inoperative. Both batteries must remain installed for proper weight and balance. Avoid prolonged engine-off flight with a single battery.
2	Circuit Breakers	Required only for required systems
3	Voltmeter/VHF Radio Voltage readout	One may be inoperative (but not both.)

Chapter 4

ABNORMAL OPERATING PROCEDURES

4.1. General. Follow the procedures in this chapter when other than normal circumstances occur. These procedures do not supersede procedures contained in the flight manual. The pilot in command is primarily responsible for handling inflight emergencies. Pilots should take whatever action is necessary to safely terminate the emergency. The additional pilot (if applicable) will confirm all critical action procedures have been accomplished and provide checklist assistance at the request of the pilot in command.

4.1.1. Refer to your checklist and IFG for additional guidance. If time and conditions permit, inform the appropriate controlling agency with the following information about your situation:

- 4.1.1.1. Aircraft call sign and type.
- 4.1.1.2. Position and altitude.
- 4.1.1.3. Nature of emergency.
- 4.1.1.4. Number of people on board.
- 4.1.1.5. Fuel on board.
- 4.1.1.6. Intentions (desired runway and ETA).
- 4.1.1.7. Assistance required.
- 4.1.1.8. Squawk emergency code 7700 (if warranted).

4.1.2. The situation will dictate whether you should return to the home airfield or land at another suitable airfield. Deviate from normal return routes and altitudes if the situation warrants. When deviating, inform the controlling agency, if possible.

4.2. Radio Failure. For a no radio (NORDO) recovery, the procedures in AFI 11-205, *Aircraft Cockpit And Formation Flight Signals* and Flight Information Publications (FLIP) apply. Comply with the following general procedures:

- 4.2.1. IFF Procedures: Set transponder code to 7600 until safely landed.
- 4.2.2. At a controlled airfield, remain outside or above Class D airspace until the direction of landing has been determined. Rock your wings on downwind and acknowledge tower light signals by rocking your wings. If no light signal is received and no traffic conflict exists, land.
- 4.2.3. At uncontrolled airfields, remain 500 ft above the published pattern altitude while attempting to determine the landing runway. If unable to use traffic to determine the landing runway, use wind indicators. Once the landing runway has been determined, join the airfield traffic pattern and land.

Chapter 5

LOCAL OPERATING PROCEDURES

5.1. Use of This Chapter. This chapter is reserved for unit local operating procedures. Units may also publish chapter 5A containing the same information in condensed format to be carried in-flight along with the aircraft checklist. If this chapter is incorporated in another base publication (instruction, supplement, etc.), a single page insert will be used referencing its location or the entire publication will be inserted, as appropriate.

5.2. Guidance. Procedures herein will not be less restrictive than those contained elsewhere in this instruction. Unnecessary repetition of guidance provided in other established directives should be avoided. However, reference to those directives is acceptable when it serves to facilitate location of information necessary for local operating procedures.

5.3. Procedures for Publishing. When publishing chapter 5, units will forward copies to the MAJCOM and appropriate subordinate agencies who will review it and return their comments or required changes back to the units, as appropriate. If a procedure is determined to be applicable to all T-11 units, it will be incorporated into the basic instruction.

5.4. Organization of Chapter 5. The local chapter 5/5A will be organized in the following manner and will include, at a minimum, the following information:

- 5.4.1. Section A. Introduction.
- 5.4.2. Section B. General Policy.
- 5.4.3. Section C. Ground Operations.
- 5.4.4. Section D. Flying Operations.
- 5.4.5. Section E. Abnormal Procedures.
- 5.4.6. Attachments. Illustrations.

5.5. Procedures for Inclusion. This chapter will include procedures for the following, as applicable:

- 5.5.1. Command and control.
- 5.5.2. Aircrew Publication Requirements.
- 5.5.3. Diversion instructions and fuel requirements
- 5.5.4. Local weather procedures.
- 5.5.5. Cross-country procedures.
- 5.5.6. Unit standards (optional).

MARVIN R. ESMOND, Lt General, USAF
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Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 11-2, *Aircraft Rules and Procedures*
AFI 11-2TG-11, Volume 1, *TG-11 Pilot Training*
AFI 11-202, Volume 3, *General Flight Rules*
AFI 11-205, *Aircraft Cockpit And Formation Flight Signals*
AFMAN 37-139, *Records Disposition Schedule*
Joint Publication 1-02, *DoD Dictionary of Military and Associated Terms*
T.O. 1G-11(T)A-1, *USAF TG-11A Flight Manual*

Abbreviations and Acronyms

AFI—Air Force Instruction
AFMAN—Air Force Manual
AFORMS—Air Force Operations Resource Management System
AFPD—Air Force Policy Directive
AGL—Above Ground Level
ATC—Air Traffic Control
DO—Director of Operations
FCIF—Flight Crew information File
FLIP—Flight Information Publication
FT—Feet
HQ—Headquarters
IP—Instructor Pilot
KTS—Knots
MAJCOM—Major Command
MSL—Mean Sea Level
MPH—Miles Per Hour
NORDO—No Radio
NOTAM—Notice To Airman
OG—Operations Group
OGV—Operations Group Standardization/Evaluation

OPR—Office of Primary Responsibility

PDO—Publishing Distribution Office

PIC—Pilot in command

RCR—Runway Condition Reading

SOF—Supervisor of Flying

STAN/EVAL—Standardization/Evaluation

T.O.—Technical Order

U—Unqualified

VFR—Visual Flight Rules